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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BOYLE, ROBERT C

ART UNIT

PAPER NUMBER

4131

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,048	Applicant(s) LACHOWICZ ET AL.	
	Examiner ROBERT C. BOYLE	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☒ Claim(s) 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/15/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 33 is objected to because of the following informalities: the German term "halogenides" is used instead of the English term "halide". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 4 and 9 state "the monofunctional vinyl compound has at least one additional functional group." The term monofunctional implies that only one functional group is present, however this is contradicted by the phrase "at least one additional functional group" which implies that the monofunctional vinyl compound is not monofunctional. Thus, claims 4 and 9 appear to contradict an express limitation of claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Stark et al., U.S. Patent Application Publication 2002/0007009.

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7. Claim 1 discloses a liquid, acryloyl group containing resin composition comprising the reaction product of a monofunctional vinyl compound, at least one multifunctional acrylic ester, and at least one dicarbonyl group together. The equivalent ratio of the vinyl compound to the activated hydrogen atom on the dicarbonyl group is in the range from 0.01:1 to 0.9:1 and the equivalent ratio of the vinyl compound plus the ester to the activated hydrogen atom on the dicarbonyl group is greater than 1.05:1.

8. Stark teaches the formation of compositions formed by reacting dicarbonyls, diacrylates, and vinyl silane compounds together (abstract; paragraphs 0014, 0017, 0027, 0031, 0032, and 0037). Stark teaches addition of the above in ranges from 0.05-10 wt% diacrylate (paragraph 0017), 0.05-5.0 wt% vinyl silane (paragraph 0009), and 0-2.0% dicarbonyls. These ranges encompass and anticipate the ratios disclosed in claim 1. Stark teaches the composition was liquid dispersions (paragraph 0043). The presence of an acryloyl group is inherent in the reaction product of the esters, vinyl compounds, and dicarbonyls.

9. Claim 2 discloses the vinyl compound is selected from a group that includes ethyl acrylate. Stark teaches reacting acrylic esters in the composition (paragraph 0014).

10. Claim 3 discloses the dicarbonyl is selected from a group that includes acetoacetates. Stark teaches acetoacetoxyethyl acrylate (paragraph 0032).

11. Claim 4 discloses the vinyl compound has at least one additional functional group with atoms other than hydrogen or carbon. Stark teaches trisacetoxylvinylsilane, which has more than one functional group and has silicon and oxygen.

12. Claim 5 discloses the vinyl compound is listed in the claim, which includes glycidyl acrylate. Stark teaches using glycidyl acrylate (paragraph 0031).

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13. Claims 6, 7 and 8 disclose the process of preparing the composition which involves reacting the three components, the vinyl compound, the dicarbonyl, and the ester; specifically reacting them in the order of the vinyl compound with the dicarbonyl and then that product with the ester. Stark teaches reacting the constituents all in an initial charge, or where different constituents are added at different times (paragraph 0037).

14. Claims 9 and 32 disclose the vinyl compound has an additional functional group that is not a vinyl group. Stark teaches using glycidyl acrylate (paragraph 0031).

15. Claim 31 discloses the dicarbonyl is selected from a group that includes acetoacetates. Stark teaches acetoacetoxyethyl acrylate (paragraph 0032).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 10-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark in view of Moy et al., U.S. Patent 5,945,489.

18. Claims 10 and 33 teach the reaction is carried out in the presence of a catalyst which includes basic compounds having a $pK > 11$. Stark does not teach using such a catalyst.

19. Moy teaches using guanidine as a catalyst (column 9, lines 11-16). One of ordinary skill in the art at the time the invention was made would have been motivated to modify the coating composition in Stark with the reaction process taught in Moy because Moy teaches using acrylates and acetoacetates to form protective or decorative coatings that are not readily volatile

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or readily absorbed through the skin (Moy: abstract; column 1, lines 5-30). Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made.

20. Claims 11, 15, 19, 23, and 27 disclose a curing method where the composition is cured by ultraviolet light, electron beam, or heat. Moy teaches curing with ultraviolet light (column 12, lines 20-23).

21. Claims 12, 16, 20, 24, and 28 disclose the curing method is done in the absence of a photoinitiator. Moy teaches samples that were crosslinked with 0% photoinitiator present (column 12, lines 20-23).

22. Claims 13, 14, 17, 18, 21, 22, 25, 26, 29 and 30 disclose a cured product according to the curing method. Moy teaches cured films useful in protective or decorative coatings on wood or metal substrates (column 12, lines 59-62).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Friday 9:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

/R. C. B./
Examiner, Art Unit 4131